Summer Safety
Covering Some of the Hazards
of the Summer Months

# What are the Hazards of Summer?

- Allergies
- Heat related illnesses
- Poisonous Plants
- Tornadoes
- Lightening Storms
- Fatigue
- Stinging Insects
- Sun exposure
- Wildfires
- Poisonous Animals
- Interfering with PPE
- Fatigue and Exhaustion

# The Rising Temperatures

- As temperatures rise, so does the stress on your body.
- Two critical actions can help you battle the heat.
  - Acclimation to the heat.
  - Consumption of water.
- These two actions can help the most.

# Your Body is a Good Regulator of Heat

- Your body reacts to heat by circulating blood and raising your skin's temperature. The excess heat is then released through the skin by sweating.
- Physical activity can limit the amount of blood that flows to the skin to release heat.

# Your Body is a Good Regulator of Heat

- Sweating can also maintain a stable body temperature if the humidity level is low enough to permit evaporation and if the fluids and salts you lose are adequately replaced.
- When your body cannot release heat, it stores it. This raises your core temperature and heart rate putting your health at risk.

# Interfering with the Regulator

- Many factors can cause unbalances in your body's ability to handle heat.
  - Age
  - Weight
  - Fitness
  - Medical condition
  - Diet

# Summer Heat

- Heat stress is a serious hazard in the workplace as well as at home.
- Excessive heat can place an abnormal stress on your body.
- When your body temperature rises even a few degrees above normal (which is about 98.6 degrees Fahrenheit) you can experience
  - muscle cramps
  - become weak
  - disoriented
  - dangerously ill

# Six Factors of Heat Stress

- Temperature
- Humidity
- Movement of Air or lack of air movement
- The radiant temperature of the surroundings
- Clothing
- Physical activity

# Heat Stress-Early Sign of Trouble

- Heat Stress will reduce your work capacity and efficiency.
- Signs of heat stress include:
  - Tiredness
  - Irritability
  - Inattention
  - Muscular cramps.

# Heat Stress-Early Sign of Trouble (Cont.)

- If you are:
  - Overweight
  - Physically unfit
  - Suffer from heart conditions
  - Drink too much alcohol
  - Are not used summer temperatures
- You may be at greater risk of heat stress and should seek and follow

# Heat Rash- Another Early Sign of Trouble

- Also known as prickly heat, occurs when people are constantly exposed to hot and humid air, causing a rash that can substantially reduce the ability to sweat.
- Heat rash is not just a nuisance because of discomfort, but by reducing the ability to sweat, the ability to tolerate heat is reduced.

# Heat Rash and Heat Stress

- First Aid for Heat Rash
  - Cleanse the affected area thoroughly and dry completely.
  - Calamine or other soothing lotion may help relieve the discomfort.
- First Aid for Heat Stress
  - Good nutrition
  - Become Heat acclimated
  - Drink lots of fluids

# Heat Cramps- Final Warning

- May occur after prolonged exposure to heat.
- They are the painful intermittent spasms of the abdomen and other voluntary muscles.
- Heat Cramps usually occur after heavy sweating and may begin towards the end of the workday.

# Heat Cramps- First Aid

- First aid for heat cramps will vary. The best care is:
  - Rest
  - Move to a cool environment
  - Drink plenty of water- No pop, sparkling water, or Alcohol.
  - Electrolyte fluids such as Gatorade or Sqwincher may also be used.

# Heat Exhaustion- Time Running Out

- May result from physical exertion in hot environments.
- Symptoms may include:
  - Profuse sweating
  - Weakness
  - Paleness of the skin
  - Rapid pulse
  - Dizziness
  - Nausea
  - Headache
  - Vomiting
  - Unconsciousnes
- The skin is cool and clammy with sweat. Body temperature may be normal or subnormal.

# Heat Exhaustion- What Happened

- Heat exhaustion develops when a person fails to replace fluids and salt that are lost through sweating.
- You may start to experience extreme weakness, fatigue, giddiness, nausea or a headache as heat exhaustion progresses.

# Heat Exhaustion- First Aid

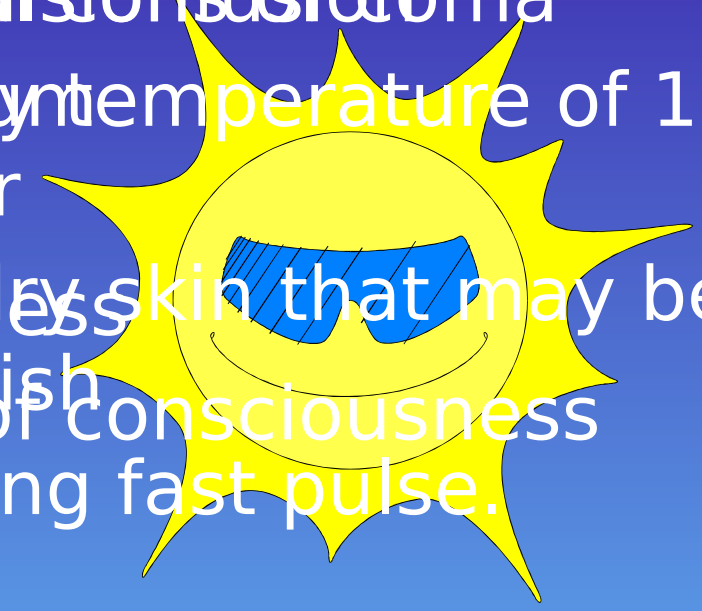
- Rest in the shade or cool place.
- Drink plenty of water (preferred) or electrolyte fluids.
- Loosen clothing to allow for your body to cool.
- Use cool wet rags to aid cooling.

# Heat Stroke- Your Out of Time

- This is a serious medical condition that urgently requires medical attention.
- Sweating is diminished or absent, which makes the skin hot and dry.
- Body temperature is very high (106 degrees F. and rising).

# Heat Stroke- Signs and Symptoms

- Convulsions or coma
- Body temperature of 105 degrees F or higher
- Hot dry skin that may be red, mottled or bluish
- Loss of consciousness
- A strong fast pulse.



# Heat Stroke- **Rapid Response**

- If you suspect someone is suffering from heat stroke, call an ambulance immediately.
- Their condition will rapidly deteriorate.
- You must make a provide care immediately.

# Heat Stroke- First Aid

- **This is a Medical Emergency!!**
- Brain damage and death are possible.
- Until medical help arrives, move the victim from the heat and into a cool place.

**Call 9-1-1**

# Heat Stroke- First Aid

- You must use extreme caution when soaking clothing or applying water to a victim.  Shock may occur if done to quickly or with too cool of water
- Soak his or her clothes with water and use a fan or ice packs.
- Douse the body continuously with a cool liquid and summon medical aid immediately.

# The Heat Index

- The heat index table was developed by the Weather Service.

## General Heat Stress Index

| Danger Category | Apparent Temperature (°F) (Humiture) | Heat Syndrome |
|---|---|---|
| IV. Extreme Danger | >130° | Heatstroke or sunstroke imminent |
| III. Danger | 105° – 130° | Sunstroke, heat cramps, or heat exhaustion likely. Heatstroke possible with prolonged exposure and physical activity. |
| II. Extreme Caution | 90° – 105° | Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity. |
| I. Caution | 80° - 90° | Fatigue possible with prolonged exposure and physical activity. |

Note: Degree of heat stress may vary with age, health, and body characteristics.

| TEMPERATURE °F | Relative Humidity 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% |
|---|---|---|---|---|---|---|---|---|---|
| 104 | 98 | 104 | 110 | 120 | >130 | >130 | >130 | >130 | >130 |
| 102 | 97 | 101 | 108 | 117 | 125 | >130 | >130 | >130 | >130 |
| 100 | 95 | 99 | 105 | 110 | 120 | >130 | >130 | >130 | >130 |
| 98 | 93 | 97 | 101 | 106 | 110 | 125 | >130 | >130 | >130 |
| 96 | 91 | 95 | 98 | 104 | 108 | 120 | 128 | >130 | >130 |
| 94 | 89 | 93 | 95 | 100 | 105 | 111 | 122 | 128 | >130 |
| 92 | 87 | 90 | 92 | 96 | 100 | 106 | 115 | 122 | 128 |
| 90 | 85 | 88 | 90 | 92 | 96 | 100 | 106 | 114 | 122 |
| 88 | 82 | 86 | 87 | 89 | 93 | 95 | 100 | 106 | 115 |
| 86 | 80 | 84 | 85 | 87 | 90 | 92 | 96 | 100 | 109 |
| 84 | 78 | 81 | 83 | 85 | 86 | 89 | 91 | 95 | 99 |
| 82 | 77 | 79 | 80 | 81 | 84 | 86 | 89 | 91 | 95 |
| 80 | 75 | 77 | 78 | 79 | 81 | 83 | 85 | 86 | 89 |
| 78 | 72 | 75 | 77 | 78 | 79 | 80 | 81 | 83 | 85 |
| 76 | 70 | 72 | 75 | 76 | 77 | 77 | 77 | 78 | 79 |
| 74 | 68 | 70 | 73 | 74 | 75 | 75 | 75 | 76 | 77 |

NOTE: When the air temperature is above 80 degrees F. and the relative humidity is above 40% the temperature the body experiences is greater than the air temperature.

# Soaking in the Sun

- The power of the sun can feel good when emerging from the Winter blahs.
- Caution must be observed when exposure to the sun is frequent and intense.
- Health conditions and problems can arise from too much sun exposure.

# Common Sun Related Health Problems- Skin Cancer

- Exposure to UV radiation can lead to skin cancer. The three most common:
  - Basal Cell
  - Squamous Cell
  - Melanoma
- Receiving one or two blistering sunburns before the age of 18 at least doubles an individual's risk for developing melanoma (AAD 1994)

# Common Sun Related Health Problems- Eye Damage

- Eye Damage from UV radiation
- Long exposure to sunlight can lead to eye problems later in life, such as cataracts.
- Another potential effect of UV radiation is a "burning" of the eye surface, called "snow blindness" or photokeratitis from sunlight.

# Common Sun Related Health Problems- Eye Damage

- Snow Blindness effects usually disappear within a couple of days, but may lead to further complications later in life.
- UVB damage to the eyes is also cumulative, so it is never too late for people to start protecting their eyes.

# Common Sun Related Health Problems- Premature Aging

- Repeated exposure to the sun can cause premature aging effects.
- Sun-induced skin damage causes wrinkles and furrows, easy bruising, brown or “liver spots” on the skin.
- Because this exposure in cumulative, protection can never be to late.

# Common Sun Related Health Problems- Immune System

- Scientists believe sunburns can alter the distribution and function of disease-fighting white blood cells in humans for up to 24 hours after exposure to the sun.
- Repeated overexposure to UV radiation can cause more damage to the body's immune system.
- Mild sunburns can directly suppress the immune functions of human skin where the sunburn occurred, even in people

# Let’s Talk About The Sting of Summer

- With increased temperatures, many insects become very active.
- Often these insects are just a nuisance, but these insects can cause many health related problems.

# The Stinging Insects

- Some Common Ones in this area:
  - Bees
  - Wasps
  - Hornets
  - Yellow Jackets
  - Fire Ants (in southeastern US)

- Some Uncommon Ones:
  - Caterpillars
  - Centipedes
  - Black Widow Spider
  - Brown Recluse or Fiddleback Spider

# The Common Problems

- Over 2 million people are allergic to stinging insects.
- An allergic reaction to an insect sting can occur immediately, within minutes, or even hours after the sting (although never more than 24 hrs).
- People who have experienced a systemic allergic reaction to an insect sting have a 60% chance of a similar (or worse) reaction if

# How to Prevent Stinging Attacks

- Stinging insects are especially attracted to
  - sweet fragrances (perfumes, colognes, and hair spray)
  - picnic food
  - open soda and beer containers
  - garbage areas.
- Avoiding these attractants will lessen a person's chance of being stung.

# The Sting of Anaphylaxis

- Anaphylaxis is the medical term for an allergic reaction.
- The only treatment to an allergic reaction is the use of epinephrine and other treatments.
  - Epinephrine can be self-injected or administered by a doctor.
- Often intravenous fluids, oxygen, and other treatments are necessary as well.
- It is very important to call for medical assistance immediately, even if the person says “I am okay” after administering epinephrine.

# First Aid May Not Be Enough

- Once stabilized you may be required to stay overnight at the hospital under close observation.
- People who have had previous allergic reactions and rely on the protection of epinephrine must remember to carry it with them wherever they go.
- Also, because one dose may not be enough to reverse the reaction, immediate medical attention following an insect sting is

# Some Symptoms of an Allergic Reaction

- Hives, itching, and swelling in areas other than the sting site.
- Tightness in the chest and difficulty in breathing.
- Hoarse voice or swelling of the tongue.
- Dizziness or a sharp drop in blood pressure.
- Unconsciousness or cardiac arrest.

# asic First Aid for Stings

- Bees will sting only once leaving the barbed stinger in the flesh.
  - To remove the stinger scrap with a credit card or other object.
  - DO NOT pinch and pull out the stinger, this will inject more venom.
- Wasps, hornets and yellow jackets repeatedly sting leaving no stinger behind.

# Basic First Aid for Stings

- If breathing difficulties develop, or if the person appears to be having an adverse reaction, **DIAL 9-1-1. Get Prompt medical care.**
- Wash bite/sting area well with soap and water.
- If stung or bitten on the fingers or hand, remove any rings or jewelry in case of swelling.
- Apply a cold compress.

# Other Animal or Insect Hazards

- Poisonous Animals such as
  - Snakes
  - Scorpions
- Are also prevalent during the Summer Months
- Also disease carrying insects such as mosquitoes and ticks are prevalent.

# A Little about Ticks

- Can carry a wide variety of diseases.
- Ticks contract these diseases from the host they attach to.
- Some common diseases are:
  - Lyme Disease
  - Rocky Mountain Spotted Fever
- Most diseases are common to specific species of tick.

# Insect Protection

- Two primary repellants are used by most insect repellants. They are:
  - Insecticide permethrin
  - Insect repellent deet *(N,* N-diethyl-m-tiluarnide)
- It is important that each individual be carefully monitored when using either of these products.
- As with any chemical, allergic reactions can develop from the

# How DEET Works

- Deet repellents works by evaporation, creating a shield a few inches above the area of application.
- The presence of the repellent vapor confuses insects so they can’t locate a target host.
- In most cases it usually requires less than 1% of the repellent to form this protective barrier.

# How Permethrin Works

- Permethrin is actually a contact insecticide.
- Permethrin is considered ideal because it is applied to clothing, gear, mosquito nets and bedding and is not applied directly on the body.
- Where ticks are a concern, permethrin on clothing or gear will kill ticks that travel across as little

# Some Natural Defenses

- There are well over 150 *natural repellents* while the most common are:
- Citronella
- Eucalyptus
- Lemon Leaves
- Peppermint
- Lavender
- Cedar Oil
- Canola
- Rosemary
- Pennyroyal
- Cajeput
- Generally the EPA considers these oils safe to use in low dosage but overall their effectiveness is limited to less than 30 minutes

# Additional Sources of Information on insects and repellants

- http://www.tickinfo.com
- http://allergy.mcg.edu/ALK/fact.html
- http://www.emeraldcoast.com/government/emergency/poison.htm
- http://www.uos.harvard.edu/ehs/hot_topics/pom_yellowjacket.html

# Let’s Have Fun In the Sun

- With everything, moderation is best.
- Avoid those beehives and hornet nests.
- Keep waste containers, beverages and food in enclosed containers.
- Wear protective clothing from ticks, mosquitoes.
- Wear proper sunscreens when out in the sun.

# Let’s Have Fun In the Sun

- If you are sensitive to sunburns avoid being in the sun from 10 AM to 2 PM when the sun is at its peak.
- Consume lots of water to stay hydrated.
- Cool down in air conditioned rooms or near fans.
- Wear light colored, natural fiber clothing to help your body to repel heat absorption and cool easier.
- Pace yourself during strenuous

# Any Questions